

**Request to Archive  
With The National Centers for Environmental Information  
For Global Oscillation Network Group (GONG)  
Provided by NWS>NCEP>SWPC**

**2015-09-22**

This information will be used by NCEI to conduct an appraisal and make a decision on the request.

**1. Who is the primary point of contact for this request?**

Meg Tilton

NCEI

Data Manager

303-497-6223

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Normal working hours: Monday 1 - 5 p.m, Tues-Thur. 9 a.m. - 5 p.m., Friday 9 a.m. - 1 p.m.

**2. Name the organization or group responsible for creating the dataset.**

NSO/GONG > Global Oscillation Network Group, National Solar Observatory

**3. Provide an overview summarizing the scope of data you want to archive. Describe the outputs, data variables, including their measurement resolution and coverage.**

At this point we are planning to archive the following:

- 1.) H-alpha images in raw and processed formats (one-minute cadence)
- 2.) Raw 10-minute magnetograms
- 3.) Fully processed and corrected magnetograms (10-minute cadence)
- 4.) Files documenting corrections applied to magnetograms (less frequently)

**4. What is the time period covered by the dataset? (YYYY-MM-DD, YYYY-MM or YYYY)**

From 2016-01-01

Ongoing as continuous updates to the data record

**5. Edition or version number(s) of the dataset:**

N/A

**6. Approximate date when the dataset was or will be released to the public:**

2016-01

**7. Who are the expected users of the archived data? How will the archived data be used?**

Regular institutional users include the following:

- Space Weather Prediction Center (SWPC)
- Air Force Research Laboratory (AFRL)
- Air Force Weather Agency (AFWA)
- NASA's Space Weather Modeling Center

Independent scientists who are developing space weather products will also be regular users. These regular users will primarily be interested in magnetograms. Finally, there will be scientists who access the data only occasionally

and will focus more on the H-alpha images.

**8. Has the dataset undergone user evaluation and/or an independent review process? Did NCEI participate in design reviews?**

The GONG dataset is well-established in the Space Weather community. GONG consists of six (6) ground-based observatories strategically placed around the globe so that at least one site can observe the Sun at all times. GONG also includes a centralized processing system that distributes these data to customers worldwide. SWPC, which is one of these customers, uses GONG research data as a critical input to its WSA-ENLIL solar wind model running on NOAA's operational supercomputer systems.

As part of the transition to NOAA stewardship, SWPC will thoroughly evaluate the code and the GONG data products. SWPC's director and NCEI's chief of Solar Geophysics have reviewed the GONG archival project extensively.

**9. Describe the dataset's relationship to other archived datasets, such as earlier versions or related source data. If this is a new version, how does it improve upon the previous version(s)?**

The National Solar Observatory (NSO) is archiving the research-quality GONG dataset. NCEI will be archiving the operational data. The rationale for archiving the operational data is that these are the data SWPC has access to when making their forecasts. To evaluate new prediction models, operational rather than research-grade data are needed for comparison purposes.

**10. List the input datasets and ancillary information used to produce the data.**

NSO/GONG magnetograms and H-alpha data products, as well as a composite magnetogram.

Ancillary information: files documenting the data used in zero-point corrections to magnetograms.

**11. List web pages and other links that provide information on the data.**

<http://gong.nso.edu/>

<http://gong2.nso.edu/products/tableView/table.php?configFile=configs/hAlpha.cfg>

<http://gong2.nso.edu/products/tableView/table.php?configFile=configs/averageMagnetogram10min.cfg>

**12. List the kinds of documents, metadata and code that are available for archiving. For example, data format specifications, user guides, algorithm documentation, metadata compliant with a standard such as ISO 19115, source code, platform/instrument metadata, data/process flow diagrams, etc.**

1. See #30.

**13. Indicate the data file format(s).**

1. FITS
2. JPG
3. J2K

**14. Are the data files compressed?**

No

**15. Provide details on how the files are named and how they are organized (e.g., file\_name\_pattern\_YYYYMM.tar in monthly aggregations).**

Files will follow the convention outlined at [http://www.ngdc.noaa.gov/stp/space-weather/online-publications/stp\\_division/stp\\_dataset\\_descriptions/stp\\_filenaming\\_convention.pdf](http://www.ngdc.noaa.gov/stp/space-weather/online-publications/stp_division/stp_dataset_descriptions/stp_filenaming_convention.pdf):

gong\_<DSN>\_fs\_<yyyymmdd>\_<hhmmss>\_<OBS>.fts or .jpg

where

gong = 4-character institutional code

<DSN> = 3-character Data short name, as follows:

halph = H-Alpha

magne = 10-minute magnetogram

fs = 2-character Miscellaneous info code

yyyymmdd = 8-character Observation date

hhmmss = 6-character Observation time

<OBS> Observatory, as follows:

"bb" for Big Bear,

"ml" for Mauna Loa

"le" for Learmonth

"ud" for Udaipur

"td" for Teide

"ct" for Cerro Tololo

Example:

gong\_halpha\_fs\_yyyymmdd\_hhmmss\_bb.fts or .jpg

[Note: file name format may expand to distinguish between data SWPC received in near real time and data whose delivery was delayed.]

**16. Explain how to access sample data files and/or a file listing for previewing. If it is not available now, when will it be available?**

The best sample data currently available is on the <http://gong.nso.edu> website. The operational product files NCEI is storing may differ somewhat.

**17. What is the total data volume to be submitted?**

**Continuous Data: data volume rate for a continuous data production.**

Total Data Volume Rate: 50GB per Day

Data File Frequency: 22752 per Day

Data Production Start: 2016-01-01

**18. Are later updates, revisions or replacement files anticipated? If so, explain the conditions for submitting these additional data to the archive.**

It is possible that operational GONG data will be submitted retroactively to the archive. SWPC representatives will discuss this possibility in October 2015.

**19. Describe the server that will connect to the ingest server at NCEI for submitting the data.**

Physical Location: Boulder, CO

System Name: @dido-02.swpc.noaa.gov

System Owner: DOC/NOAA > National Oceanic & Atmospheric Administration

Additional Information: SWPC Server

**20. What are the possible methods for submitting the data to NCEI? Select all that apply.**

SFTP Pull

**21. Identify how you would like NCEI to distribute the data. Web access support depends on the resources available for the dataset.**

1. User interface to order and stage data for download

**22. Will there be any distribution, usage, or other restrictions that apply to the data in the archive?**

No known constraints apply to the data.

**23. Discuss the rationale for archiving the dataset and the anticipated benefits. Mention any risks associated with not archiving the dataset at NCEI.**

In accordance with (IAW) 15 U.S.C. § 1532 the DOC is authorized to conduct research on all telecommunication sciences, including wave propagation and reception, predictions of electromagnetic wave propagation condition and disturbances in such conditions, disseminating general scientific and technical data relating to these functions. In turn, DOC Department Organization Order (DOO) 10-15 directs the NOAA Administrator to "observe, collect, communicate, analyze, and disseminate comprehensive data and information about the state of the upper and lower atmosphere ... and of the Earth, the Sun, and the space environment" and "operate and maintain a system for the storage, retrieval and dissemination of data regarding ... the Earth, the Sun, and the space environment." Within NOAA the NWS Space Weather Prediction Center (SWPC) is responsible for operational space weather support whereas NESDIS is responsible for acquiring and managing space weather mission data. The NESDIS National Centers for Environmental Information (NCEI) is responsible for ensuring that NOAA operational space weather data and products are properly stewarded in accordance with NOAA Administrative Order (NAO) 212-15, Management of Environmental Data and Information.

**24. Are the data archived at another facility or are there plans to do so? Please explain.**

No

**25. Is there an existing agreement or requirement driving this request to archive? Have you already contacted someone at NCEI?**

A Service-Level Agreement (SLA) between NCEI and the NWS/SWPC is planned.

**26. Do you have a data management plan for your data?**

No

**27. Have funds been allocated to archive the data at NCEI?**

Yes, the following funding is anticipated but needs confirmation:

FY15: \$100K

FY16: \$100K

FY17: \$100K

FY18: \$100K

FY19: \$100K

FY20: \$100K

**28. Identify the affiliated research project, its sponsor, and any project/grant ID as applicable.**

In FY15 SWPC received seed funding from NOAA to establish an operational capability to acquire, process, utilize and steward GONG data. A FY16 Program Change Summary (PCS) has been submitted for continued GONG support.

**29. Is there a desired deadline for NCEI to archive and provide access to the data?**

Archive by: 2016-01-01

Accessible by: 2016-01-01

**30. Add any other pertinent information for this request.**

Access Plan is as follows:

Phase 1 (FY16): Access to the archive SIPs will be provided via the data manager

Phase 2 (FY17): Improved access to the archived SIPs via NGDC Extract (NEXT)

Phase 3 (after FY17): Discussion with SWPC are required to determine what sort of special access is required for internal NOAA and external users.

The following ISO-compliant metadata records have been created:

GONG: WAF/Get Data/FAQ

("http://www.ngdc.noaa.gov/docucomp/page?xml=NOAA/NESDIS/NGDC/STP/Solar/iso/xml/solar-imagery\_gong.xml&view=iso2faq/FAQ\_ISO")

GONG H-alpha: WAF /Get Data / FAQ

("http://www.ngdc.noaa.gov/docucomp/page?xml=NOAA/NESDIS/NGDC/STP/Solar/iso/xml/solar-imagery\_chromosphere\_h-alpha\_gong.xml&view=iso2faq/FAQ\_ISO")

GONG Magnetograms: WAF /Get Data/FAQ

("http://www.ngdc.noaa.gov/docucomp/page?xml=NOAA/NESDIS/NGDC/STP/Solar/iso/xml/solar-imagery\_chromosphere\_magnetogram\_gong.xml&view=iso2faq/FAQ\_ISO")

WAF = Web Accessible Folder; FAQ = Frequently Asked Questions